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Atari Online News, Etc.
A-ONE Online Magazine
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A-ONE #0131

10/01/99

~ IBM Joins Color Craze! ~ People Are Talking! ~ Lynx News!
~ Netscape Upgrade! ~ IE Security Patch! ~ Jaguar Survey!
~ Game Boy Color Antz! ~ Sega Goes Disney! ~ PC Death-Ray?!
~ US Lawyer Quits MS Case ~ Global Net Tax Ban! ~ No More Web Jams?

-* Users Winning In UK Web War! *-
-* E-mail Top Reason People Go Online! *-
-* Western Digital Recalls Defective Drives! *-

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->From the Editor's Keyboard

"Saying it like it is!"

I don't have a lot to say this week (YEA!). I guess that it's just been one of those long arduous weeks when energy starts to drain along with the autumn sun. The days are getting shorter, the nights a little cooler. The leaves are just getting 'round to their annual color change. The pool has been covered for a few weeks, the few remaining vegetables from the garden will be picked this weekend. I only got one decent-sized pumpkin due to the drought; it's sitting proudly on the front stairs! I have a lot of musk melons, but I don't know whether or not they'll ripen in time. Next year, maybe I'll have a better crop.

Otherwise, it's been fairly quiet around here lately. Life goes on. Atari users are still the ultimate group of computer users around. I still manage to learn something new, Atari-related, every week. Nostalgia...

Until next time...

Atari Auction Site is For Sale!

From: webmaster@atariauction.com

Due to time constraints of the current owner, Atari Auction is being placed for sale. The current owner simply does not have the time available to market and build the site into the high-traffic, Atari Enthusiast site it can be.

Atari Online Auction at
<http://www.atariauction.com/>

4 domain names:

atariauction.com,
atariauction.net,
atari-auction.com and
atari-auction.net

are available with site.

Software can be purchased or leased.

For details, send an email to:
atariauctioninfo@auction-concepts.com
and you will receive a auto-response
with additional information about
the Atari Auction site.

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PEOPLE ARE TALKING
compiled by Joe Mirando
jmirando@portone.com

Hidi ho friends and neighbors. Right out of the chute, let me apologize for my intro in last week's column. You see, I had twisted something in my back last week and was taking pain killers to alleviate it a bit. I guess that the combination of the medication and the pain that was left over (have you ever noticed that pain killers seem to affect everything except for the pain that you're trying to kill??), that made every thought I had a mushy one. The really sad part is that everything I said in last week's intro was one hundred percent true.

Just a quick note about the TEAM ATARI SETI@home Search Group...

I've noticed that every time I mention SETI@home and TEAM ATARI here in this column the group picks up another user or two. While we are by no means the smallest group looking for signals from an extraterrestrial intelligence, we are still smaller than I'd like to see. Out of all of the people who used to use Atari computers, only 33 people have found their way into this group. Sure, Atari hasn't made a computer in quite a while, and people do move on to other platforms, but there are still lots of us who keep up on events in the Atari world and still remember how cool Atari computers really are. And out of all those former users who moved on to other platforms and those who still use Atari computers AND another platform, only 33 people have joined up.

Okay, I understand that not everyone is as interested in astronomy as I am, and not everyone wants to use a screensaver that searches through data collected by a radio telescope and look for a possible signal from outside our solar system, but there must be more than 33 of us. All together, the members of TEAM ATARI have contributed almost four years worth of CPU time to the project. And that's only happened in the last two months or so with the 33 of us.

Even if you never end up joining in, stop by the main SETI@home website and take a look at what's there. It's really quite interesting. And if you DO decide you want to join up, just download the software for your system and then go to the TEAM ATARI page and join up. Could there BE anything cooler than this? I don't think so. The URL for the main SETI@home website is <http://setiathome.ssl.berkeley.edu>. The URL for the TEAM ATARI page is http://setiathome.ssl.berkeley.edu/cgi-bin/cgi?cmd=team_lookup&name=team_aatari.

I could go into more detail here, but I've already done that several times and the folks who run the project do it so much than I. Go take a look. Even if you don't participate, it's a heck of an interesting project.

Another side note... I just received my update of Windows 98 for that spiffy laptop. It's supposed to make 98 completely Y2K compliant. Funny,

but the 'old' version said that too. Let's see now... The average street price for WIN98 is about \$175.00. The price I paid for the upgrade to The Second Edition was \$26.00. To be fair, that included shipping, but c'mon now, shouldn't all this stuff have been ironed out before the FIRST version was ever released??

All I can say is that my good old TT... and in fact even my first ST with TOS 1.00 was Y2K compliant. And that machine hasn't been "new" since '86 or so. So much for all of Microsoft's advanced technology. My TT has been running constantly for about four months now (I leave it on continually to avoid heat-up/cool-down chip loosening) and is still rock-solid stable. My brand-spanking new PC laptop needs to be rebooted daily or it becomes simply too unstable to use. Interesting, ain't it?

Now let's get to all the news...

From the comp.sys.atari.st NewsGroup
=====

Ben Hills asks for help with a floppy drive:

"I recently bought an Atari 520STFM from a Bric-a-brac type shop for ten pounds. The computer itself works alright, but the floppy drive doesn't. Although the drive makes all the right whirring and clunking noises it will not read any disks. On closer inspection I found that one of the Read/Write heads had actually broken off! I have managed to get another 720k drive from an old Epson XT PC. The original drive from the ST was an Epson SMD-380. This replacement drive taken from the PC is an Epson SMD-300. Both are 720k drives and both look exactly the same, but I cannot persuade the replacement drive to work. The drive spins correctly, but nothing else happens. So, this is a bit of a long shot, but does anybody know what the correct jumper settings should be on this SMD-300 drive, or does anybody use an SMD-300 drive in their ST? Any help would be greatly appreciated."

Nicholas Bales tells Ben:

"You need to set the drive number to 0 instead of 1. Check the jumper settings on the original ST drive, they should be similar."

Matt DeJonge asks about networking his Falcon:

"Hello, all. It is time to take my Falcon out of the closet! I haven't touched it in about three years, but the hunger has arisen. My question:

I have two PCs on a 10MB 10-Base-T network running at my house. I'd like to get my Falcon030 4MB/65MB/4.04 to participate too. What type of hardware do I need? I am quite Atari-literate (coded for 6 years in MWC and GFA), but I have lost track of what hardware (if any) is available to convert from the AppleTalk type port to a RJ-45. Should I run under GEM/AES? I'd like to run NetBSD 1.4.1 or Linux, though, if the hardware will be supported...."

Martin-Eric Racine tells Matt:

"Have a look at Saka's homepage for an overview of the possibilities:

<http://gallery.uunet.be/saka/>

[On the AppleTalk type port to a RJ-45 thing,] Currently, none, because none of the manufacturers of LAN-to-Ethernet converters agree to releasing any programming infos to allow someone to write Atari drivers.

If you still enjoy any of your Atari software yes, run under GEM/AES.

> I'd like to run NetBSD 1.4.1 or Linux,

As far as NetBSD or Linux, they're entirely possible, though a bit slow."

Steve Stupple asks for help with his Mega STE:

"I have a Mega STE... you probably figured that one out..., how do I install and internal hard drive? it has an Ethernet card fitted... and how do I get the thing to go above the 19,200 baud rate on serial 2?"

Jo Even Skarstein tells Steve:

"We really should have a FAQ on this, but here we go again <smile>

* The drive can't be bigger than 1Gb. * It must have parity disabled. If this isn't possible on your drive, you can add a parity-generator yourself, see http://atari.nvg.org/parity/parity_gen.html for details.

Serial 2, that's an SCC-port IIRC, you should be able to select speeds up to 230k4. You should install HS-Modem though."

Don Shoengarth asks for info about an ADSpeed accelerator:

"I have a 1040 STf with a ICD ADSpeed and have no information on it. I've found many pages with people who have this product but have yet to find the information on it. Did it come with any utilities? When I use Profile2 to view its information its says its running a 8mhz.Why?"

"Dr Clu tells Don:

"Got an AdSpeed eh? A fine machine. You'll need a 16 MHz utility to tell the machine to jump to the 16 MHz option, and there is also a utility to tell it jump back down to 8 MHz. Great machine, before I got the TT, the AdSpeed was my main machine. Now it is the secondary machine in the front room. But I used it for internet surfing and everything else.

I'm not good at sending files yet using any of my Atari utilities, but I believe you can find a copy of this one the Dark Forces BBS. I'll see if I can find the number."

Stefan Svensson asks about swapping hard drives in his Falcon:

"I tried to change my 125 MB internal hard disk in my Falcon030 to a 2.1 GB 2.5" Toshiba IDE disk. However, AHDI doesn't seem to recognize this correctly and can only allocate 50 MB! AHDI formats the disk fine, but when I try to partition the disk, it just says that "boot information corrupted".

Is 2100 MB too much for the internal IDE controller?"

Robert Schaffner tells Stefan:

"You should - NOT - format IDE hard drives.. Creating some partitions is enough!"

Looks like this drive lost manufacture track on the disc. Try HDDriver, but I think this drive is dead."

You can use a 10Gig device, the -partition size- is the point. TOS 4.x -> 1Gig per partition!"

Claes Holmerup adds:

"It's not too much for the controller - but it's too much for AHDI, which only supports up to 1GB IDE-disks. I'd recommend HDDriver instead."

The author of HD Driver, Dr. Uwe Seimet, tells Stefan:

"IDE is such a simple interface that there is no controller at all, just a few logic chips. Anyway, there is no limit for the capacity of drives you can connect to the Falcon's IDE or SCSI port. Note, however, that old drivers might not work. Try the demo version of HDDRIVER:

http://home.nikocity.de/nogfradelt/atari_english.html

HDDRIVER supports IDE and SCSI drives of any size."

Frank Thomsen asks for information about reading Atari disks on a PC:

"I used to have an Atari 1040 ST E for making MIDI music. Later I got a PC and sold the good old and trusty Atari. Unfortunately I forgot to transfer my old MIDI-files on to the PC and now I have this load of old Atari disks that my PC refuses to read. Is it possible to do something about that? It would sure make me very happy."

Ernest Schreurs tells Frank:

"I think if you run GEMULATOR, the Atari ST emulator, it will let you read Atari disks in your PC. You can then simply copy them over to a partition of your PC."

Nicholas Bales adds:

"Unfortunately, PCs often cannot read the format of older STs, although the other way round works fine.

You have the following options:

- Send the disks to someone who own an Atari and have them copy the files over to DOS disks. This is a 10 minute job that can be done on any Atari with a 720K drive. It's a shame you didn't do it before selling your ST.

- Try messing with an emulator such as WinSTon or PaCifiST and a disk image converter such as MakeDisk. You'll want to convert your disks to .ST files, and use the emulator to copy the files contained in the .ST disk images onto your DOS hard drive."

Alan Nelson asks for info about attaching files to email:

"I am having a problem sending someone an attached file - his emailer can't decode UUE or MIME (he's using a PC), while the editor I am using (Everest) with my emailer (Newsie 0.94) can't load the file I'm trying to send if I don't encode it first. Everest reports that the lines are too long and truncates them, thus presumably corrupting the file.

Has anyone got any suggestions how I can get this poor chap's file to him before I resort to using snailmail?!

For reference, I'm using an STFM with STiNG, CAB 2.7 and, of course, Newsie."

Kenneth Medin tells Alan:

"If the file is anything but a plain ASCII textfile you must use MIME or UUE, preferably the former. Try to mail the file to yourself to check if Newsie can unpack it.

If it is a ASCII file with very long lines use another editor that can handle them (I'm using QED) and reformat the text."

Hard drive questions seem to be the order of the day this time around. Ritchie Swann asks:

"If the file is anything but a plain ASCII textfile you must use MIME or UUE, preferably the former. Try to mail the file to yourself to check if Newsie can unpack it.

If it is an ASCII file with very long lines use another editor that can handle them (I'm using QED) and reformat the text."

Uwe Seimet tells Ritchie:

"AHDI might be the problem. It's old and doesn't support all the SCSI hardware you can connect to the Atari. Current driver software should better fit your needs, e. g. HDDRIVER:

http://home.nikocity.de/nogfradelt/atari_english.html"

Ekkehard Flessa adds:

"...You could give CBHD a try, it's for free and can handle large partitions. AHDI is completely outdated.

You may obtain CBHD (Archive name: CBHD502.TOS) from:
<http://home.t-online.de/home/Steffen.Engel/CBHD.htm>"

Well folks, that's it for this week. I'm off to find that bottle of pain killers and to try to relax a bit. If you've ever suffered from back pain (and who hasn't?) you'll understand.

Tune in again next week, same time, same station, and be ready to listen to what they are saying when...

PEOPLE ARE TALKING

->In This Week's Gaming Section - Antz! For Game Boy Color!

G-Police! Jaguar Game Poll!
New Lynx Games! 'South Park'!
'WipeOut'! 'Xena' Ships!
And much more!

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->A-ONE's Game Console Industry News - The Latest Gaming News!

The Return of the Game That Kick-Started an Era!

Psygnosis Releases Wipeout 3, the Ultimate, High-Speed, Anti-Gravity Racer

At last, the wait is over! Psygnosis' eagerly anticipated high-speed, antigravity racer, Wipeout 3, zooms onto store shelves today, promising the most intense, adrenaline-pumping racing experience ever. Since the release of Wipeout XL in 1996, gamers have been crying out for more of the extreme, addictive gameplay that only the Wipeout series could offer. Now, the long-awaited Wipeout 3 is ready to hit PlayStation game consoles everywhere, and fans of the series will not be disappointed.

Since its unveiling earlier this year, Wipeout 3 has received critical acclaim from the press worldwide. Gaming editors everywhere are marveling at the strides Wipeout 3 has made in both technology and in gameplay. PSM Magazine instantly declared "this game is gonna be a monster hit," and added "this looks to be the PlayStation's killer app for the upcoming Christmas season." UGO.com called Wipeout 3 "the best incarnation of the Wipeout series yet, and at this year's Electronic Entertainment Expo (E3), Wipeout 3 was voted the Best Racing Game of the show by IGN.com, over a number of high-caliber titles including Sony Computer Entertainment America's Gran Turismo 2.

Wipeout 3 truly pushes the PlayStation game console to its limits, utilizing full high-resolution mode throughout the game, even in multi-player mode. The game also offers all-new craft designs, with three new teams in addition to the five available in Wipeout XL, and seven new weapons with five of the best retained from its predecessor. Wipeout 3 features eight new, highly detailed, polished tracks set in various areas of a futuristic city. As with the two previous Wipeout games, the artistic identity of Wipeout 3 was the brainchild of cult UK graphic design agency, The Designers Republic, who created the landscape for each of the game's eight circuits, as well as logos and identities for each of the game's eight racing teams.

Wipeout 3 features an improved progression system to ensure that the game is accessible enough in its early levels to make newcomers feel right at home. As players progress through the game, the intensity increases, with

death-defying spiral tracks and terrifying 90 degree twists and turns, providing the most extreme, antigravity racing experience that hard-core fans could ever wish for.

Continuing the heritage of its predecessors, Wipeout 3 will feature a cutting edge soundtrack compiled by renowned British DJ, Sasha, who, as Musical Director, produced five exclusive music tracks for the game, and also selected and worked with several international guest acts, including The Chemical Brother and Orbital, for the project.

Electronic Arts Ships Xena: Warrior Princess for the Playstation

Electronic Arts announces it will ship Xena: Warrior Princess for the PlayStation on Oct. 5, 1999, immediately following the start of the television show's new season.

Xena: Warrior Princess will provide game enthusiasts their first opportunity to take on the role of Xena, the ultimate mythological heroine in a video game and experience epic adventures and non-stop action.

Xena: Warrior Princess will offer many unique gameplay features. They include seven enormous worlds -- each based on scenes found in the TV show -- that encompass more than 20 unique levels.

Xena will rely on her signature moves (back flips, bicycle kicks and 360-degree splits), weapons (sword, staff and Chakram) and special power ups (a fire sword called Promethean Blade and a lightning bolt called Hand of Zeus) to advance through each level.

The game challenges Xena to progress through multiple levels and battle such enemies as Cyclops, Dryad, Golem and Medusa to save her friend Gabrielle and defeat the King Valarian and Narsus, the evil Amazon Queen, who plot to take over the world.

"Xena is a natural for a video game, given her dynamic and strong heroine character appeal," says Frank Gibeau, vice president of marketing for Electronic Arts. "All the factors that make Xena such a popular television icon lend themselves perfectly to creating a heroic female character that gamers can appreciate and relate to."

Developed by Universal Interactive Studios, the producers of Crash, Bandicoot and Spyro the Dragon, Xena: Warrior Princess incorporates many recognizable elements from the syndicated action television series. The series is produced by executive producers Rob Tapert and Sam Raimi of Renaissance Pictures and is distributed by Studios USA Domestic Television.

Additionally, the game will introduce several newly created characters. Among them are Kalabrax, a powerful sorceress bent on revenge with the gods, and the Amazon Bird Women.

Additionally, Universal Interactive Studios completed more than 100 character animations for the game to help smoothly deliver and execute all of Xena's action-packed moves. The development team also texture-mapped the faces of stars Lucy Lawless (Xena) and Renee O'Connor (Gabrielle).

Xena: Warrior Princess for the PlayStation is a single-player, third-person perspective title and supports dual shock analog control to deliver force

feedback. The game carries a ''T'' (Teen) ESRB rating and will have an MSRP of U.S. \$39.99. More information on the game can be obtained via the product Web site at <http://www.xenagame.com>.

**Get Ready To Blow-Up Rocks... Asteroids for the
Game Boy Color Blasts onto Retail Shelves**

Rock blasting action is back! Gamers can experience the biggest arcade hit in gaming history anywhere and anytime when Activision, Inc. releases its ultra addictive edition of Asteroids for the Nintendo Game Boy Color and Game Boy systems. Based on Activision's successful 1998 PC and PlayStation game console title, Asteroids will be available at more than 15,000 retail outlets throughout the United States and Canada and will carry a suggested retail price of \$29.95.

Set deep within hyperspace, the original Asteroids challenged gamers to shoot a path to the stars as they escape plummeting asteroids careening their way and take aim against invading flying saucers. Developed by Syrox Developments Ltd., the developers behind the 1998 PC and PlayStation game console remakes, Asteroids for the Game Boy will recapture the non-stop darting and blasting of the original, but will take the classic game to an all-new level by challenging players to brave a multitude of distinct space worlds or ''Zones," each comprised of levels of advancing difficulty. Zones vary from an update of the classic, and a Black Hole world with deadly gravitational pull to a world where hostile suns shoot arching flames. A hidden ship and a new difficulty level have been created specifically for the Game Boy. Additionally, the game features eye-popping pre-rendered 3-D graphics, increasingly difficult space hazards, Game Boy printer support and multiple modes of gameplay, including multi-player games via Game Link cable.

**Acclaim Brings Cartman, Stan, Kyle and Kenny To
The PlayStation-R Game Console For The First Time**

Acclaim Entertainment, Inc. Thursday announced that South Park, its top-selling action game based on the hit Comedy Central program, has shipped to stores.

''We're excited that over 20 million PlayStation owners can now play the uproarious video game based on the popular 'South Park' animated series," said Tom Bass, marketing manager at Acclaim Entertainment. ''With the incredible success of both the cable program and the recent hit movie, we're looking forward to giving fans a true, interactive gaming experience - Mr. Hankey style!"

South Park is a hilarious, first-person, action-packed game that unfolds in five episode-based, single-player adventures. Gamers can choose to play as Cartman, Stan, Kyle or Kenny in single player mode, or select among a host of 20 South Park characters when engaged in multiplayer mode. The story begins when a mysterious comet, visible every 666 years, is discovered to be heading right for the quiet little town of South Park and causing all sorts of mayhem. It is up to the boys and Chef to save the day and bring peace to South Park using a host of gadgets including a cow launcher, sniper chicken, snowballs, and Terrance and Phillip dolls. Along the way,

players encounter all of South Park's classic characters - Mr. Garrison and Mr. Hat, Mephisto and more. South Park also features custom voices recorded specifically for the game by show creators Matt Stone and Trey Parker, as well as Isaac Hayes as Chef.

Electronic Arts Ships NASCAR 2000 for the PlayStation

Electronic Arts announced that it has shipped NASCAR 2000 for the PlayStation game console.

NASCAR 2000 is the only NASCAR-licensed game for the PlayStation this fall and offers the most complete and realistic racing experience for the NASCAR fan. The game includes 33 active NASCAR drivers and cars, 18 official NASCAR tracks and exclusive TV-style commentary from broadcasters Bob Jenkins and Benny Parsons. Five new fantasy road courses allow the player to drive on twisting, turning road courses with their favorite NASCAR drivers, combining the appeal of traditional driving games with the power and competition of NASCAR.

"I really enjoy racing the new fantasy road courses," said NASCAR legend Dale Earnhardt. "I've raced all the ovals such as Atlanta, Darlington, Lowe's Motor Speedway and Bristol many times. I pretty much know every inch of those tracks, but these new fantasy tracks are a kick. They keep you on your toes."

New in NASCAR 2000 are beautifully rendered, motion-captured interactive pit stops. EA SPORTS worked with real NASCAR officials to ensure the authenticity of the moves performed during the pit stop. In real NASCAR racing the skill of the pit crew is often as important as the skill of the driver to the outcome of the race. NASCAR 2000 brings this element of a race to life by challenging the user to hit certain buttons in a limited amount of time as the car is serviced in the pits. How well this exercise is performed determines the length of the pit stop.

"Races are won and lost in the pits every weekend during the season," said Richard Childress, owner of the No. 3 GM Goodwrench Service Plus car. "Having the interactive pit stops in NASCAR 2000 makes a lot of sense because any real NASCAR fan can tell you that's one of the most exciting parts of the race. Rather than just sitting back and watching the pit stops, the user now plays a big part in how quickly they can get their driver back in the race."

A new "create-a-driver" feature allows users to input their own name and race special cars with high-resolution custom paint jobs. Adjustable features on the cars include wedge, downforce, gear ratio, individual tire pressure, fuel load, wheel lock, individual shock adjustments, and car weight distribution.

NASCAR 2000 features a new physics model for the cars, new drivers and new tracks. In addition to the five new fantasy road courses, Homestead-Miami Speedway has been added to compliment the existing oval, superspeedway and road courses. Those tracks include Atlanta, California, Lowe's Motor Speedway, Bristol, Darlington, Indianapolis, Las Vegas, Martinsville, Michigan, North Carolina, Phoenix, Pocono, Richmond, Sears Point, Talladega, Texas, and Watkins Glen.

Dynamic lighting and shading both during day and night races bring a new

realism to the game. During day races reflections shift over time to show the position of the sun. Custom seasons allow the race fan to stack a season with shorts tracks, superspeedways or road courses to create a dream season. Intense racing action is shown with sparks, car damage and wall markings from collisions.

Depending on time available and personal preferences, it is possible to race from three percent to 100 percent of a 500-mile race. A short pit option can be utilized so that strategic pit stops are needed more frequently in short races. Communication between crew chief, spotter and driver is crucial to win in NASCAR 2000.

"We are always listening to our fans to determine what they like in the game, and what they want in future versions of the game," said Michael Pole, vice president and executive in charge of production at Electronic Arts. "One of the things we heard loud and clear last year was people love to race on their favorite oval tracks, but they also wanted the variety that a road course offers. So we added five top-notch fantasy road courses. They also told us that pit stops were one of their favorite parts of the race, so we went out and worked with NASCAR to make sure we nailed our new pit stop option. Fans wanted to not only be able to race as their favorite drivers, but they wanted to put themselves right into the game, so we added create-a-driver. These are just a few examples of how we incorporate feedback from the people who buy the games into our future products."

Continuing the tradition of licensing music that is popular with NASCAR fans, NASCAR 2000 includes three songs from Blues Traveler. The Blues Traveler songs and other original music in the game, along with color commentary from Parsons and Jenkins, can be turned on or off depending on user preference.

NASCAR 2000 includes 33 active NASCAR drivers and cars updated for the current season including Jeff Gordon, Dale Earnhardt, Dale Earnhardt Jr., Dale Jarrett, Mark Martin, Terry Labonte, Bobby Labonte, Jeff Burton, Tony Stewart, Jeremy Mayfield, Rusty Wallace, John Andretti, Kyle Petty, Adam Petty, Mike Skinner, Ernie Irvan, Kenny Irwin Jr., Kenny Wallace, Johnny Benson, Ken Schrader, Ricky Rudd, Darrell Waltrip, Michael Waltrip, Bill Elliott, Sterling Marlin, Bobby Hamilton, Ward Burton, Steve Park, Geoffrey Bodine, Wally Dallenbach, Chad Little, Kevin Lepage and Joe Nemechek. Historical racing buffs can attempt to grab the checkered flag racing as past legends such as "The King" Richard Petty, Cale Yarborough, Alan Kulwicki, Davey and Bobby Allison, David Pearson and Benny Parsons.

"NASCAR prides itself on being the most fan friendly sports league in the world," said George Pyne, NASCAR vice president of marketing. "We are always looking for ways to include the NASCAR fan in the fun and excitement of this great sport. NASCAR 2000 is just another example of this philosophy in action. EA SPORTS has captured the excitement of NASCAR and made it accessible to everyone with a PlayStation."

3DO Releases Army Men Sarge's Heroes for the Nintendo 64

The 3DO Company Tuesday announced the release of Army Men -- Sarge's Heroes, the fourth game in the highly successful Army Men brand, and the first to be created for the Nintendo 64. With the main character "Sarge," a one-man wrecking ball leading the toy soldier offensive, the Army Men -- Sarge's Heroes game sets a new standard in character animation in the

action shooter category.

A multi-million dollar marketing campaign featuring a 10-week television advertising campaign and a seven-month print campaign in both consumer and gaming magazines back up the biggest game launch in the Company's history. 3DO has partnered with major retailers to create a strong in-store presence, including special sku and premium item programs.

"The launch of this game demonstrates how the Army Men brand has caught fire," said Trip Hawkins, chairman and CEO of The 3DO Company. "Sarge is one of the most dynamic characters ever created for a video game and he resonates with gamers and mass consumers alike. The game appeals to adults who remember playing with the plastic toys and to kids who just like cool game play. Our marketing campaign reflects the wide audience for the Sarge's Heroes game."

The Army Men -- Sarge's Heroes game introduces a cast of nine different characters with loads of personality in a rollicking adventure as Sarge sets out to rescue the elite Bravo Company Commandos, foil the Tan Army in its quest for diabolical weapons, and even take time out for a little romance. A wide variety of hand-drawn animations bring the characters to life, and Plastosheen, a lighting technique especially developed for this game, gives the toy soldiers a realistic plastic look.

In his quest for world domination, the evil General Plastro sends his Tan soldiers through mysterious portals to bring back horrible weapons of mass destruction like the giant Magnifying Glass. Players lead Sarge though 14 missions of up to five separate objectives each. Seven levels in the "Plastic World" feature everything from treacherous mountain terrain to arctic wastelands, forests, towns, and heavily defended enemy army bases. In "Our World" the player will experience warfare like never before as Sarge fights through seven levels set in a suburban home: the backyard garden -- complete with giant insects and flowers -- the living room, the kitchen, and the bathroom. Seven multiplayer missions for two, three or four players extend the fun. Family Mode allows players of all skill levels to enjoy the game together.

As Sarge rescues members of his squad, five commandos based on the classic Army Men molded poses, he gains the use of their weapons including a Bazooka, a Mortar and a Flame Thrower. A cadre of more weapons with spectacular effects round out the arsenal. Players may also experience sharper weapons effects and environments with the use of the Expansion Pak for high-resolution mode. The Rumble Pak puts the player into the middle of the action.

Other upcoming games from the Company include BattleTanx: Global Assault for the Nintendo 64, Army Men -- Sarge's Heroes, Army Men -- Air Attack, Crusaders of Might and Magic, and Vegas Games 2000 for the PlayStation game console, and Army Men -- Toys in Space, Crusaders of Might and Magic, Heroes of Might and Magic III: Armageddon's Blade expansion pack, and Family Game Pack Royale for PC.

Infogrames North America Marches Antz for Game Boy Color Into Stores

Antz go marching two by two...hurrah, hurrah...Antz go marching on to Game Boy Color...hurrah, hurrah!

Infogrames North America in conjunction with DreamWorks, today announced that *Antz* for Game Boy Color began shipping this week. Based on the hit animated film, the game stars the famous ant Z, an insecure little bug who has high hopes of finding Insectopia, a mystical world where food is plentiful and all insects live in peace.

"*Antz* invites kids to experience the miniature world of last year's hit movie," said Bonnie Scott, product manager for Infogrames North America's I-Heroes Label. "We are very excited to be working with Dreamworks. Through this title kids can explore life through a bug's eyes and get involved in a game that has all the charm and humor of the movie."

As Z, the player journeys through termite colonies and anthills on his heroic quest to win over Princess Bala's heart. The game spans 19 levels of wild adventures including such Ant-oriented hazards as acidic termites, larger-than-life water droplets, gum-soled shoes and, the scariest of them all, the sun-filled magnifying glass.

CLCE and Light and Shadow Production developed the title that is also compatible with the original black and white Game Boy. The game's estimated retail price is \$29.99 and can be found at all major retail outlets.

Psygnosis Restores Order on the Streets and in the Skies with the Release of G-Police -- Weapons of Justice, the ultimate, free-roaming 3D Action-shooter

Psygnosis Tuesday released its 3D action shooter, *G-Police -- Weapons of Justice*. The sequel to 1997's critically acclaimed hit *G-Police*, Psygnosis' astounding helicopter game is back with a host of new features to thrill hard-core fans of the series and newcomers alike. In addition to the helicopters of the first game, *G-Police -- Weapons of Justice* includes three new player vehicles, each one packed to the max with a variety of deadly weapons. *G-Police -- Weapons of Justice* is now available in stores everywhere, exclusively for the PlayStation game console.

G-Police -- Weapons of Justice picks up ten days after the first game left off. The war between the G-Police and their enemy, Nanosoft, ended with the destruction of the Nanosoft cruiser, but G-Police resources are depleted, civil unrest is growing, and the organized crime syndicates are gaining power. Fortunately, help is on its way in the form of the Marines, but things start to go wrong when it appears that their Colonel has a hidden agenda.

The G-Police recruit will face 30 new missions this time around, with 25 weapon-types available to them, and five air and land vehicles at their disposal. In addition to the Havoc and Venom, helicopters, players can race around the streets of Callisto, digging out trouble in the Rhino, an armored car. There is also the Raptor, a giant mech-type vehicle which allows players to leap from building to building, or glide down to earth to traverse the city with ease.

Finally, there is the Corsair spaceship, which allows players to be transported to battles taking place far beyond the Callisto environment. All the space missions take full advantage of the PlayStation game console's high-resolution mode.

When creating *Weapons of Justice*, Psygnosis was determined to better its

predecessor in every way possible and, after listening to feedback from fans, the team developed a clear idea of what elements could benefit from some improvement. The first was the difficulty of the game. The development team looked at the complexity of the flight model and improved the controls so that Weapons of Justice is more accessible to newcomers. The game will still cater to hard-core gamers, however, with heavy doses of dog-fighting and plenty of opportunity to develop their flying expertise and perform amazing maneuvers.

The second hurdle of the original game was in the draw-distance. Because the game's complex AI pushed the PlayStation's CPU to its limits, the graphics engine took a slight hit, causing a shorter draw-distance than expected. In G-Police -- Weapons of Justice, this obstacle has been overcome with the addition of an "echo-locator system," a device attached to player's vehicle, allowing them to see further into the distance, and making navigation much smoother and easier. Improving on the winning formula in every way possible, G-Police -- Weapons of Justice will entice newcomers to enter into its future-noir world, while ensuring that hard-core fans come back for more of the same fast and furious action offered in the first game.

Designed specifically for the PlayStation game console, G-Police -- Weapons of Justice supports the DUAL SHOCK analog controller, for a truly interactive flying experience. G-Police Weapons of Justice was developed by the Psygnosis Stroud Studio.

Infogrames North America Ships Demolition Racer for the PlayStation

Infogrames announced Tuesday that its demolition derby-style racing game, Demolition Racer, will begin shipping this week for the Sony PlayStation game console.

The game will be available for the personal computer later this fall.

Demolition Racer lets players participate in action-packed races with 16 cars competing against each other on one of 10 different tracks. Set in unique environments, Demolition Racer's tracks include an aircraft carrier, a chemical plant, and a parking garage, with most of the tracks offering players the chance to take alternate pathways or shortcuts.

Developed by the Pitbull Syndicate, the Demolition Racer team includes some of the core members who created the highly successful Destruction Derby 1 and 2 games.

"We think that Demolition Racer is the kind of game that players have been deprived of for a long time," said Steve Allison, director of marketing for sports and racing at Infogrames North America. "It's a racing game with a twist. Not only can you inflict damage to cars, you must do so to win." Players who cause massive damage to other vehicles, while falling behind in the race, will not place well in the final statistics, due to Demolition Racer's advanced scoring system. Damage points and one's placement in the race are combined with a multiplier to determine the winner of each race.

Players can choose from eight different car types and can compete in several types of demolition derby events, including demolition racing, bowl matches, stock car racing, last man standing, and suicide racing.

Following a collision, vehicles catch fire, billow smoke and visibly show damage, such as wobbly tires, while hoods and other car parts fly off. Gameplay includes huge jumps that send cars into 360-degree mid-air corkscrews, with the pinnacle of destruction being a one-hit takeout move that occurs when a car catches air and lands on top of another car.

In an effort to keep up the fast-paced action in Demolition Racer, players can earn health points for their car by picking up strategically placed repair power-ups, as well as picking up boxes with huge bonus points. Players will have to watch out for the black boxes marked with a skull and cross bones -- as these do major damage to the player's own car. An immediate on-screen points system shows players how many points they receive with each hit or power-up, as well as how much health their car has left.

Demolition Racer's licensed soundtrack includes songs from Road Runner Records' alternative band, Fear Factory; Moonshine Music's break beat trio, Cirrus; British techno-dance music trio, Empirion; along with tracks from industry veteran, Tommy Tallarico, and a remix from Holland's mix-master, Junkie XL.

The game's new engine delivers incredible speed and collisions at 30 frames per second and offers intense mulitplayer action via horizontal or vertical split screen viewing, and supports the PlayStation analog and Dual Shocka controllers.

The estimated retail price for Demolition Racer is \$44.99. For more information, visit the Demolition Racer web site at www.demolitionracer.com

New Konami Titles for PlayStation Take Gamers Back to Ancient Times

Suikoden II and Soul of the Samurai Offer Feudalistic Japanese Adventure

Konami of America, Inc. announced Tuesday the release of Suikoden II, the sequel to the immensely popular Suikoden. Like the original, Suikoden II is an action packed role-playing adventure that delivers extensive spell attack combinations, detailed tactical map battles and introduces more than 108 new characters. Suikoden II offers both beginners and Suikoden saga enthusiasts a chance to immerse themselves into this romantic story of honor and betrayal.

Suikoden II centers around a magical friendship between two boys who survive a vicious war against the Scarlet Moon Empire and long to return to their beloved homeland, Kyaro. On their way back home the boys' platoon is brutally ambushed -- a trap set by their own commander to derail the peace process. Framed for the attack as part of a cover-up, the two are marked as traitors and are plunged into another war that only one can survive. The two now face the ultimate test of friendship, love and loyalty.

This adult-themed role playing game (RPG) allows players to utilize any of the 108 characters to create the most tactical fighting force of infantry, archers and spellcasters. Each type of character has distinguishing strengths and weaknesses, and gamers must determine the best strategy for each encounter. For example, infantry are strong against hand-to-hand attacks, but are weak against archery and magic attacks. Players can modify the formation of characters in combat and change party members throughout

the story to create the most effective positioning and attack plans against each specific target.

A special new feature to *Suikoden II* allows gamers to save and utilize data from the previous version of the story to augment their military strategy, and unlock hidden story lines from the original saga. Characters may also fight in combination with one another's designated strengths. Specific character combinations within a party can accomplish special attack maneuvers. Gamers may also command their unit to flee from an opponent without fighting, or bribe an enemy with money. However, there is no guarantee of escape and if the bribe amount is too low, the enemy unit may not let the party get away.

Gamers can choose various attack items, including flaming arrows, fire walls and winds-of-sleep to accomplish their campaigns. Players are also able to increase weapon levels at Blacksmith Shops and earn money to buy more advanced military items by bartering trade goods at Trading Posts. The extensive spell "rune" list includes more than 48 types of powerful spell combinations accessible at various levels of the game.

Suikoden II is now available at retail outlets nationwide. The game is rated "T - Teen" by the ESRB and will be priced \$39.99 SRP.

Another exciting title available this month from Konami is *Soul of the Samurai*. *Soul of the Samurai* begins in the domain of Matsuna in the Tenmei era (1781) where legend tells of mysterious practices of resurrection taking place. The time is plagued with famine and corruption, as powerful feudal lords seek to take over the Bakufu Shogunate. A ninja, Lin, travels to Matsuna to investigate her brother's mysterious disappearance. Meanwhile, Hiba Kotaro, a gifted samurai, is traveling back to Matsuna to visit his parent's gravesite. Kotaro finds his parent's gravesite desecrated and senses an evil presence within the entire village. Together, Lin and Kotaro must discover who is behind the mysterious evil forces that threaten the Shogunate and free all of Japan from its treachery.

Soul of the Samurai's intricate story line, high-resolution graphics and authentic Japanese soundtrack will transport gamers into the romanticism of feudal Japan. Gamers are able to choose either Hiba Kotaro or Lin to begin their adventure.

The samurai, Kotaro, is a gifted swordsman and gamers can utilize more than 40 of his sword techniques based on real-life Samurai martial arts. By building up mental and experience points acquired after defeating a series of enemies, both Kotaro and Lin learn exciting special attack moves. Kotaro can utilize his Hawk Dance, Pigeon Sonic or Spinning Eagle to wreak havoc on his enemies.

Lin uses her ninja quickness and kicking techniques to defeat her enemies, and throws various deadly objects at her enemies. Her special attacks include sword techniques Cherry Blossoms and Amaryllis, and throwing attacks Night Queen and Crimson Peacock.

The simple controls allow novice players to grasp basic fighting techniques, while more advanced gamers unfold special moves through the D-pad and button combinations.

But the tale is not over once gamers complete either Kotaro or Lin alone. Throughout the story Kotaro and Lin intersect at various points. Gamers will have to complete both Kotaro and Lin to discover the full mystery behind the evil forces that threaten the Shogunate.

Soul of the Samurai is now available at retail outlets nationwide. Available with a "M - Mature" rating by the ESRB, the title will be priced \$39.99 SRP.

Sega Dreamcast Games and Technology Showcased At Disney Innoventions Exhibit

Sega of America today announced a two year commitment to be an exhibitor at Innoventions at Epcot, an interactive showcase featuring the future of technology and consumer entertainment products.

Sega Dreamcast at Innoventions, which opens on Thursday, September 30, will host over 8 million domestic and international visitors each year to experience the latest in videogame technology and witness the future of videogame entertainment as it evolves through advanced technology and online capabilities.

Sega's 2900 square foot exhibit will feature 34 interactive stations including playable games at kiosks and a presentation of "Shenmue", a role-playing videogame that showcases the latest breakthroughs in videogaming. The exhibit will continue to evolve throughout its two year commitment at Innoventions at Epcot with game updates and exclusive previews of online gaming technology prior to being introduced on the Sega Dreamcast Network, the definitive gaming portal for consumers that enter the web through the Sega Dreamcast console.

"Innoventions is an ideal forum for us to demonstrate Dreamcast's ability to make the world a smaller, more enjoyable place by connecting people via the Internet for the first time through a low cost gaming console. Sega Dreamcast's 56K modem and realistic, evolving gameplay represent the future of gaming and technology," said Peter Moore, Senior Vice President, Sega of America. "We look forward to continually updating our Innoventions exhibit as new technology and Sega Dreamcast games are introduced."

Sega Dreamcast stations at Innoventions will feature games that allow guests of all ages to experience the future of gaming. On display will be revolutionary new Sega titles, a preview of next-generation game creation and the Sega Dreamcast Network. Sonic Adventure, Sega Bass Fishing, Sega Rally 2 Championship, Shenmue and the Sega Sports brand including NFL 2K, NBA 2K and CART - Flag to Flag will be among the first titles featured at Innoventions. Sonic Adventure displays the incredible processing power of Dreamcast pushing out 60 frames per second doubling the normal 30 frames per second found in a TV broadcast. TrickStyle from Acclaim, its much anticipated stunt-based racing game will also be featured in the exhibit area.

Sega Sports NFL 2K is the football title so realistic people often think they're watching an actual game on TV due to details as specific as visible breath when teams are playing in a cold climate. Sega Sport's basketball game NBA 2K continues the detailed tradition set by NFL 2K by including players' individual facial features, tattoos and hairstyles and exact recreations of NBA arenas and courts. In an area designed to transport guests to an authentic fishing hole, Sega Bass Fishing recreates the fishing experience with a unique rod controller which responds to physical commands such as casting, reeling and playing the line. Sega Rally 2 Championship is a true high-speed, off-road racing thriller so realistic,

players feel as though they are part of the action.

'Shenmue' was conceived five years ago by Japanese developer Yu Suzuki and was designed specifically for the high powered Sega Dreamcast. This masterpiece is so lifelike, landscapes change as time passes, responding to time of day and weather. Characters move with the grace or clumsiness of real humans. Videotapes of 'Shenmue' will detail the creative and technical elements needed to make a videogame of this caliber.

Sega Zaps Stock Trading Into Game Zone

Japanese top guns used to slugging it out with online enemies in video games could soon be just a click away from punching stock deals into the same console.

Dreamcast gaming gear maker Sega and brokerage Nomura Tuesday agreed to add share trading to the online games Sega already offers, as part of Sega's push to steer e-commerce onto its cheap Internet access platform.

From October, Nomura will provide Dreamcast customers in Japan with software to let them access its Home Trade online trading web site -- extending Nomura's reach in the Japanese retail market.

For Sega -- due to launch the console across Europe in October -- the move is part of a drive to get a piece of not just the online action, but also the money.

"It is the intention to develop e-retailing across the board through Dreamcast connectivity," said a London-based Sega spokesman. With the console now selling at around \$199 in the United States, versus \$500 minimum for a personal computer, the appeal to net newcomers is clear.

"As a low-cost Internet access device, you can see it's a lot more appealing than buying a PC," said Frederic Diot, senior analyst at research group Datamonitor.

Rather than a direct challenge to the personal computer as a route online, analysts say the console -- as well as a similar Playstation upgrade planned by Sony and a wireless online Gameboy promised from Nintendo -- reflect increasing segmentation in the access market.

The share-trading deal comes alongside similar ventures on the Dreamcast console in auto sales and horse betting, both targeting the money to be made in the segment of the youth market where PCs are uncool, but a game like Mortal Kombat may well be worth a night in.

Some may say share-trading is not that different from existing Dreamcast games where players "just pit your wits and your punches against the others." But from the investment point of view, the logic behind Sega's strategy is clear.

Investors in Internet-linked stocks are getting more anxious about seeing real returns, so a proposition that generates actual cash would make sense.

No one at Sega's European offices could say for sure what sort of electronic money-making alliances are in line for Dreamcast's European launch, but in the UK it will come with a promotional deal with BSkyB and

soccer sponsorships.

These could lead to cross-marketing, or for instance the direct sale of soccer club merchandise through Dreamcast.

Dreamcast's European Internet access will be free, and even though the online experience will not be as fast as is now possible in the United States, U.S. sales have ramped up expectations for sales of the console.

Reaching half a million units in the first fortnight, they were well in excess of even the most optimistic forecasts.

Sega's European spokesman said the target was for a million units in the first 12 months, and Datamonitor's Diot said his forecast for end-year sales was 700,000, although that had been based on the assumption of a June launch.

"They are trying to see all the different ways they can use the online capacity of Dreamcast to generate revenues," he said.

=~=-=~-

->A-ONE Gaming Online - Online Users Growl & Purr!

"-----"

Sokomania and Hyperdrome

From: Carl Forhan (forhan@midas.millcomm.com)

Just a quick reminder to Lynx fans that Sokomania and Hyperdrome are now both available for the Lynx at Songbird Productions, along with many other new releases and hard-to-find games like Lexis, Desert Strike, and European Soccer.

Ordering details on the Songbird web pages.

Sincerely,

Carl Forhan
Songbird Productions
<http://songbird.atari.org>

Where Are All The Lynx Fans?

Since alt.games.lynx has picked up on posts a bit recently, I figure this might be a good time to ask, "Where are all the Lynx fans?"

I understand that there are attractive new portables out there like the GBC and NGPC. There are also lots of other ways to spend money, on different necessities and interests.

The reason I pose the question is that Songbird Productions is currently gearing up for the production of new Atari Jaguar games. Based on a recent poll, it looks like each new game will be purchased by 100-300 fans. This is a much stronger level of support than I have received for the new Lynx games (SFX, Ponx, and Lexis).

Crystal Mines II: Buried Treasure is coming later this fall (hopefully end of October, perhaps November). Beyond that, Songbird Productions is evaluating future Lynx projects. I need to know there is serious interest in new Lynx games to make the process worthwhile. Sales have been decent but lower than my projections for the games Songbird has published.

Perhaps some Lynx fans are waiting until the holiday season to purchase some new games. I hope so. And I realize that not everyone will want a Ponx or a Lexis genre of game. But the only way Songbird can continue to deliver new titles to Lynx fans is if current titles sell well.

Thanks for reading this article, and feel free to follow-up this post on alt.games.lynx or email Songbird at songbird@atari.org with your comments or suggestions.

Sincerely,

Carl Forhan
Songbird Productions
<http://songbird.atari.org>

Last call for the new Jaguar games poll

For those who haven't heard or were recently added to the AtariNews list, Songbird Productions will be publishing four new Jaguar games in 1999 and 2000. The titles are Skyhammer, Soccer Kid, Hyper Force, and Protector.

Please vote for upcoming Jaguar games that you will definitely purchase at:

<http://apps3.vantagenet.com/zpolls/poll.asp?id=981715950>

Thanks to everyone who has already voted in this poll! Your support is appreciated.

Sincerely,

Carl Forhan
Songbird Productions
<http://songbird.atari.org>

From the Usenet and Jaguar Interactive II:

What ever happened to "Worms"?

Well, they were at CGE, but I wasn't there to see them or talk to them.

Telegames is definitely not another ICD, by any stretch of the imagination. As per an email that I received from Telegames today, they are monitoring the situation of people expressing discontent in JI2. I'm willing to wait as long as it takes to get my copy of Worms, but... Telegames is ready to cancel the preorders and refund the money.

Here's the email I received tonight from them:

---- Start of Email ----
Subject: WORMS and IS2 Cartridges
Date: Sat, 25 Sep 1999 16:04:17 -0500
From: Telegames <sales@telegames.com>

We have been monitoring the comments on Jaguar Interactive II about our "broken promises" and are disappointed in many of the comments. We regret the delays in the 2nd runs of each cartridge but the problems have been beyond our control.

Effective immediately, we will cancel all pre-orders for these products. We will promptly refund all prepayments upon request, otherwise, we will reflect credits on an individual's account for future purchases. Please share this message with others on JI2. We sent an individual e-mail to you so that it would not be perceived as a joke posting by someone.

Thanks to all for their continued support for Atari systems.

Regards,
Telegames, Inc.
---- End of Email ----

I've been waiting since Aug 1998, but a well-known troublemaker on JI2 has been an impractical 'conspiracy theorist' who's been stating they're 'using the preorder money to fund their Gameboy publishing', and other absurd things. No wonder Telegames got pissed and decided to cancel the preorders! I stated on there that I was getting frustrated with the delays, but would hold out until the carts were produced. As for the PCB reason for the delay, I got messages from some people after I posted and really realized that 'Hey, it could be a pretty hard task getting PCBs made.' It's unfortunate that because of one person going overboard with the accusations (well past my frustration levels), this guy pretty much ruined it for everyone unless Telegames reconsiders. If nothing else, I hope Telegames reconsiders enough to fill at least the preorders that were filed with them, and have expressed concern to Telegames in this respect. I urge anyone who's preordered from them to do the same at sales@telegames.com.

sigh

And a follow-up:

>Guys, give Telegames a break. All of you should know by now what a small, niche business it is to support Atari platforms. Telegames is not swindling money and they are perhaps the most prominent and influential of the remaining "classic" (pre-Hasbro) Atari supporters.

>Trust me, they will get the games out when they can. They've apparently offered to refund money to those who have pre-ordered, so no one should have anything to complain about. Either wait it out or get your money back.

>Sincerely,

>Carl Forhan
>Songbird Productions

Subject: Re: WORMS and IS2 Cartridges
Date: Sun, 26 Sep 1999 18:01:34 -0500
From: Telegames

We did not state that we would cease our efforts to make another run of IS2 and WORMS. We stated that we were cancelling all pre-orders and refunding payments upon request to remove any doubts about our use of these deposits.

Regards

Ok, perhaps that first message sounded a bit too apocalyptic. I'm pleased to know that Telegames is still pursuing the release of these games, and ONLY cancelling preorders (I'm leaving my money with them to use for credit).

=~=-~=-

A-ONE's Headline News
The Latest in Computer Technology News
Compiled by: Dana P. Jacobson

Phone Costs Sink In Fresh Web War

Britain's two biggest Internet access providers unveiled services with cheaper calls Monday as the telephone became the new battlefield of the UK Web war.

Freeserve Plc launched a plan to let users earn up to 10 hours of free Internet calls a month if they spend a minimum on other calls via its partner, Energis Plc.

The free calls would only be for evenings and weekends.

AOL UK, part of a joint venture between AOL and German publisher Bertelsmann AG, said its subscribers who pay a monthly fee would enjoy a reduced flat rate of a penny (1.6 cents) a minute for all their calls to the Web.

"This will increase the amount of time people spend online," AOL UK Managing Director Karen Thomson told Reuters, who said simplicity of its new pricing was a major draw for consumers.

She said this was a major step toward U.S.-style flat-rate pricing that made the Internet a mass-market phenomenon there.

AOL said its British users spend an average 17 minutes a day online -- a quarter the time of their U.S. counterparts.

In Britain, local calls are metered and cost up to four pence a minute on weekdays, deterring prolonged Internet use.

AOL was Britain's largest Internet service provider (ISP) until a year ago when Freeserve, the brainchild of electrical retailer Dixons Plc, erupted onto the scene offering Web access that was free except for the phone call.

Some 1.3 million people use Freeserve and its main income source to date has been a share of phone-call profits.

Since Freeserve emerged, some 200 no-subscription ISPs have sprung up in Britain, hoping to survive from phone profits, advertising and e-commerce, but call costs are under pressure.

Smaller ISPs are already offering free calls, but only at off-peak times and often with a monthly fee.

AOL felt obliged to join the UK craze for free ISPs by launching Netscape Online last month but has said it is skeptical that this is a business model that can last.

Some analysts expect government regulators eventually to pressure ex-state monopoly British Telecommunications Plc to charge less for other operators to use its local lines.

Worries about Freeserve's long-term profitability depressed its shares last week to below the 150p offer price at its launch in July when Dixons sold off a fifth of its child prodigy.

They recovered 11 pence to 147p by 1100 GMT.

In other countries, where call costs are lower, free ISPs are still a rarity.

Alta Vista, a unit of CMGI Inc., last month launched the first major U.S. free-access service which will have to live off advertising and e-commerce revenues.

Most U.S. Web users pay around \$20 a month.

Thomson said AOL UK, which has 600,000 users, had negotiated major discounts with some phone operators it declined to name, and would pass the savings on to its users, who mostly pay a monthly 9.99 pound (\$16) subscription on top of phone costs.

Netscape Online users will not get the cheaper calls.

Nortel Takes Aim At Web Traffic Jams

Nortel Networks Corp. said Tuesday it is developing a speedy networking product that aims to make many Web traffic jams obsolete.

Nortel, one of the world's biggest makers of communications gear, will bundle five products into a new package available late next year that is designed to ease the transmission of data, video and voice through existing fiber-optic wires. The bundle will consist of two existing products and three in the works.

The Brampton, Ontario-based company touted its OPTera Packet Solution as a "breakthrough" that will unite optical and packet networks into a single one to carry all types of traffic.

"It will provide lightning fast, highly reliable optical switching and routing capabilities that replace 'Old World' routers responsible for 57 percent of all Internet failures today, and deliver massive bandwidth where and when it is needed," Nortel said in a statement.

British telecommunications company Cable & Wireless Plc has endorsed the product, saying it looks forward to using that kind of technology. Nortel said it made the announcement far in advance to let potential clients plan their purchases.

Clarence Chandran, head of Nortel's carrier packet solutions unit, likened the capabilities of the upcoming package to replacing the engine of a Formula One racing car. "You're going to take his existing Formula One engine out, you're going to put a new one in, and he's going to have speed and reliability going around the corners that he's never had before," Chandran told Reuters.

In the race to develop equipment to cope with the exploding use of the Internet, companies such as Nortel and its rivals are fighting to be first to market with better products.

Michael Urlocker, analyst at Scotia Capital Markets, said Nortel's news was a clear shot at San Jose, Calif.-based foe Cisco Systems Inc. "They're building on something they're market technology leaders in: that's optical."

Phone and telecommunications carriers are trying to manage huge growth in Internet usage, and have complicated networks that are becoming increasingly unwieldy.

Demand for Nortel's optical products is exploding as the market grows. The market is expected to increase 56 percent a year to more than US\$35 billion by 2000, the company said.

Chandran said that the optical division at Nortel has had a "wild ride" in the past year as interest in its products surges. "Even my most optimistic views have been surpassed."

"The pie is growing phenomenally for everybody," Urlocker said.

"It looks like (Nortel's) playing a more aggressive marketing game," he added.

Survey Says: Electronic Mail Leading Reason To Go Online

Electronic mail has replaced research as the leading reason given by people in the United States for using the Internet, according to a survey released Thursday by consulting firm PricewaterhouseCoopers.

Approximately 48 percent of U.S. consumers said e-mail was the primary reason to go online, followed by research at 28 percent, according to PricewaterhouseCoopers' 1999 Consumer Technology Survey. The numbers were

essentially reversed in last year's survey.

In the United Kingdom, 39 percent use the Internet for e-mail, while 37 percent use it for research. Both German and French users primarily go online for research purposes.

PricewaterhouseCoopers polled 800 users in the United States, the United Kingdom, Germany and France.

Around 43 percent of U.S. homes have Internet access, the survey said, compared with around 27 percent in last year's survey. In the United Kingdom, home Internet access nearly doubled to 24 percent.

U.S. users spend an average 5.3 hours a week online, compared to users in the United Kingdom, France, and Germany, who spend 2.4 hours a week online.

Amazon.com To Let Anyone Sell There

Amazon.com will start looking like an online flea market on Thursday as the Internet powerhouse begins allowing anyone - from industrial giants to artistic grandmothers - to sell products through its Web site.

News of the vast expansion - which will add more than 500,000 items, including fly-fishing rods and buffalo steaks, to Amazon.com's product mix - sent the company's stock soaring 22.5 percent Wednesday.

"Amazon wants to get their fingers in every Internet purchase that takes place," said Ken Cassar, an analyst at online research firm Jupiter Communications. "This is getting them closer to that goal."

Seattle-based Amazon.com has built itself into an Internet shopping hub in just four years. While it once exclusively sold books online, it now offers music, videos, auctions, toys and consumer electronics.

It has more than 12 million customers, up from 10.7 million just three months ago.

Amazon.com also has been pouring millions of dollars into outside ventures, such as online pharmacy drugstore.com and Internet pet shop Pets.com.

But the new services announced Wednesday will make Amazon.com even bigger and more far-reaching, and will allow the company to expand without incurring huge startup costs.

"We thought that Amazon's success would be based on their becoming a landlord online, not just a tenant, and here we go. They are doing just that," said Lauren Cooks Levitan, an analyst at BancBoston Robertson Stephens in San Francisco.

The new service, zSHOPS, lets almost anyone - regardless of size, product or location - sell online. Amazon.com will only prohibit the sale of guns and live animals.

Shoppers can link to zSHOPS from Amazon.com's home page. They can search for a specific item, such as a digital camera, or an entire product category, like clothing, books or toys.

If shoppers like a particular zSHOPS merchant, they can click on the merchant's name to find a list of all the products that the seller is offering.

"Amazon is not the only site out there to host small businesses on their site," said analyst Cassar, noting that Yahoo! and Lycos offer similar services.

"What makes them different is that Amazon attracts more shoppers than any other site on the Web ... and provides a major thoroughfare that many shoppers will come through," he said.

Sellers pay \$9.99 a month for space on Amazon.com's Web site, with premiums charged for retailers who want their goods prominently displayed on the home page of zSHOPS.

In addition, Amazon.com also gets paid by the seller when an item is purchased, with the size of the fee depending on the purchase price.

Sellers are required to stock the items they are offering and are responsible for shipping the products promptly.

Shoppers can pay zSHOPS sellers directly by credit card, money order or check. Amazon.com will also allow zSHOPS buyers to use its proprietary 1-Click payment feature, which keeps track of a shopper's credit-card number and address so the information doesn't have to be typed in for each purchase.

To protect consumers from unscrupulous merchants, Amazon.com will guarantee refunds of up to \$250 for any item that is broken or not as the buyer expected. Those shoppers who use 1-Click payments are guaranteed up to \$1,000.

In addition, shoppers can find reviews and ratings from other customers as they check out a product on zSHOPS.

For the small merchant, zSHOPS is a way to get products to a huge buying audience without the costs of developing and marketing a separate Web site.

Phoenix businessman Keith Hertz sees zSHOPS as an opportunity to tap shoppers that he'd never reach otherwise for his hand-carved replicas of sports stadiums.

"There is a lot of competition out there and you can never get enough exposure to keep your business growing," said Hertz, who heads Sport Collectors Guild.

zSHOPS sellers also have the option to cross link their products with items Amazon.com sells itself, such as toys, books and music. That means a shopper who searches for a list of books on college sports stadiums will see other related products, such as Hertz' mini stadium replicas.

In addition to the zSHOPS launch, Amazon.com also will unveil a new Internet search engine this week. That means if shoppers can't find something, they can search other shopping sites directly from Amazon.com.

The search program also lets shoppers compare products and prices found on Amazon.com with those offered by other Internet merchants.

Although Amazon.com receives no commission for referring shoppers to other

online retailers, the company still benefits indirectly because its new services will attract additional Web surfers to its site.

Internet Management Case Settled

The cash-strapped group assuming management of much of the Internet agreed Tuesday to allow a Virginia company to continue for at least four years as keeper of the master list of World Wide Web addresses in exchange for a \$1.25 million payment.

Praised by participants as a landmark in the 30-year history of the Internet, the complex settlement aims to resolve the most contentious arguments surrounding transition of control over the Web from the federal government to the California-based Internet Corporation for Assigned Names and Numbers.

Still, the impact on typical Internet consumers was negligible in that the agreement involved largely the behind-the-scenes management of technical issues and standards. Organizers said there would have been serious problems had the talks failed.

"We think it's clear there would have been significant risk of disruption to electronic commerce, to the growth of the Internet ... if there was instability and controversy," said Andrew Pincus, general counsel for the Commerce Department, which helped coordinate the settlement.

Executives at Network Solutions Inc., the world's largest seller of Internet addresses, promised they will recognize the California group's authority over the Web, a festering issue during negotiations that started last year.

But they were confident the deal also held a promise of financial security for shareholders in their company, whose stock climbed from \$65.38 last week to \$85.50 at close of trading Tuesday.

"This is a system we need to ensure is stable and something we can build the new economy on," said Mike Daniels, the company's chairman.

Commerce Secretary William Daley said he was pleased that ICANN and Network Solutions "worked this out at the negotiating table and not at tables in a courtroom."

Since 1992, Network Solutions has coordinated the Internet's most important functions under its role as a government contractor and registered more than 5 million addresses with the ".com," ".net" and ".org" suffixes.

Under the deal, Network Solutions will act as one of about a dozen wholesalers of Internet domains, selling Web addresses directly to the public for about \$35 a year.

But it will also continue for at least four more years to maintain the master list of Internet domains, called the registry. In that capacity, it agreed to charge other wholesalers no more than \$6 annually for each Web address a customer buys.

In exchange, Network Solutions offered to pay in advance half the expected \$2 million in fees ICANN expects to charge it as a name wholesaler, plus

the full \$250,000 it will pay for maintaining the Internet's master address list.

Esther Dyson, the interim chairwoman for ICANN's directors, called the agreement ''a huge relief.''

''Everybody here feels they gave a huge amount," Dyson said. ''This is all about tradeoffs and compromise."

The government clearly wants Network Solutions to separate its functions as a seller of Web addresses and as keeper of the registry. One clause in the deal offers to allow the company to maintain the master list for up to eight years if it splits those operations within 18 months.

Network Solutions announced in August that it split those functions into ''discrete business units," but not as full a separation as sought by the government. Daniels didn't discuss future plans Tuesday.

''We have not started even to consider any particular details of what we will consider doing," he said.

Government Lawyer in Microsoft Case Quits

One of the lead lawyers for the government in the antitrust trial against the Microsoft Corporation has quit the case and resigned from the New York attorney general's office just weeks before the judge's initial verdict is expected.

Stephen Houck, who resigned Wednesday, led the courtroom fight for the 19 states suing Microsoft along with the Justice Department. He also delivered part of the government's closing arguments to the judge last week.

His decision was not expected to affect the trial's outcome because New York and the other states still are pursuing their claims. Iowa's attorney general, Tom Miller, is coordinating the states' role in the trial.

''It's hard to see how this is going to affect the case," said Robert Litan, a former senior Justice official. ''Turnover is normal. I don't think you can really read too much into this."

Houck did not return messages left at his office Thursday.

Houck questioned only one of the 26 trial witnesses, IBM executive John Soyring, who also was from New York. Much of the attention during 77 days of testimony, has been on Justice Department lawyer David Boies, who questioned Microsoft trial executives.

When Houck sought an expanded role early in the trial - asking a question during testimony from the first witness - the judge snapped at him harshly and reminded him that only one government lawyer was allowed to question each witness.

Houck was perhaps best known for his strong views that Microsoft should face the severest penalties for its alleged antitrust violations. On the final day of testimony, he told reporters the company was a ''malignant despot" and that its behavior ''will justify a very significant remedy."

Houck also was the only lawyer, besides Boies, to question Microsoft's chairman, Bill Gates, during a sworn videotaped deposition over three days last year. Shown at trial, excerpts from the tape of Gates professing to forget key events and appearing to evade questions proved embarrassing for the software giant.

Houck mentioned the Gates tape again during closing arguments last week when he said the judge "plainly has seen enough of Mr. Gates' videotaped deposition to make your own findings" about his truthfulness.

A Microsoft spokesman, Jim Cullinan, declined to comment on Houck's resignation beyond saying, "He has not applied for a job in (Microsoft) law and corporate affairs."

Houck was the head of the antitrust office for New York's attorney general until last year's election, when Democrat Eliot Spitzer defeated the incumbent and replaced Houck with Harry First.

PC 300PL: The World's Securest Desktop?

IBM claims its new PC 300PL desktops, announced Tuesday, are the most secure PCs on the market.

Backing up that claim is a new embedded security processor, available in new PC 300PL models. The chip, located on the motherboard of the PCs, will support public key, private key security and digital signatures, IBM officials said.

"For customers who are crossing the 'e-line' into e-business, security becomes a big issue," said Anne Gardner general manager for desktop systems at IBM's Personal Systems Group in Research Triangle Park, N.C.

The security processor is able to generate and store keys for private and public key-sharing applications, such as those used for encrypted e-mail or in electronic commerce. The chip can also generate and store keys for digital signatures, according to IBM.

Using hardware to generate encryption keys offers users an additional level of trust, Gardner said, because hardware is generally more difficult to crack than software-based encryption.

IBM is targeting four areas of security with the chip, including authenticity, privacy, information integrity and non-repudiation.

The chip will help, for example, with authentication, allow a company to better identify that a party placing an order is really who they say they are or develop binding, trackable documents in the case of non-repudiation, she said.

IBM will ship PCs including the security processor with the chip turned off by default. It can be turned on with a software applet included on the new PC.

"It is up to the end user or the network administrator to go in and enable this," Gardner said.

The chip is included for no extra charge in PC 300PL models. It will ship

later with other IBM client systems, including desktops and notebooks, Gardner said.

IBM also intends to make the processor available to other PC makers in hopes that it will become a standard technology in the PC industry, she said.

Besides the security processor, IBM is also including with the new PC 300PL models, a utility called User Verification Manager or UVM. IBM says the utility can be used along with its Policy Director software to set up user identities and determine access rights and privileges.

The new desktops also support Internet Protocol Security or IPSec. The technology, which is embedded in network interface cards, allows for the encryption of information sent over a network to another IPSec-enabled computer. It does so by encrypting the data packets sent between computers. This works to prevent information theft by a technique called packet sniffing, where packets of information flowing over a network are captured and re-assembled, allowing a person to read the data they carry.

The new IBM PC 300PL models will offer Intel Corp.'s latest Pentium III processors. They are priced starting at about \$1,349, according to the company.

IBM isn't the only company working to offer hardware security. Intel has included in its 800 family of chip sets a random number generator. The random numbers generator translates thermal noise created by an Intel processor into random number pattern. That number can then be used by cryptography software in encryption.

Intel is also still shipping its Processor Serial Number feature on new Pentium III chips. However, due to privacy concerns, it has cancelled plans to deliver tools that allow Web sites and other businesses to take advantage of the feature. PSN is now used mostly by network management software to help companies keep track of their PCs.

IBM Joins Color Computer Case Craze

IBM joined the computer industry's color craze Thursday, introducing covers for its ThinkPad i notebook series in "Sirius red," "Andromeda green," and five other out-of-this-world hues.

The colorful covers are inspired by an idea made popular by Apple Computer Inc. with its successful launch of iMac desktop computers, which come in six fruit-related colors.

International Business Machines Corp. joins Dell Computer Corp., eMachines and other PC makers in injecting color into new computer offerings as a way to differentiate their products from standard beige, gray or black boxes.

IBM's optional color covers, which retail for \$29.99, also come in "Mars red metallic," "Terra green metallic," Eclipse blue metallic, "Lunar gray metallic and "Polaris Blue."

The covers fit over the top of the "clamshell" casing of the computer. The IBM ThinkPad 1460 and 1480 models also feature an illuminated keyboard for use in low-light conditions. They list for \$2,199 and \$2,399,

respectively.

Netscape Releases New Communicator

Netscape on Thursday released a new version of its Communicator browser that allows consumers to access a shopping portal with one click.

Communicator 4.7, currently available online, includes a Shop@Netscape button, a feature of Netscape parent America Online Inc.'s program to expand its commerce plan across brands. The button will take users to a site that provides links to merchants, news and specials, and themed merchandising.

The new version of Communicator also includes an updated version of Netscape Radio, which rebroadcasts content from Spinner, and provides links to artists and music groups through the Netscape Music section of NetCenter.

Netscape has also bundled WinAmp 2.5, a digital music player, with the new browser.

Western Digital Recalls Hard Drives

A defective computer chip has forced Western Digital Corp. to recall 400,000 hard disk drives.

Western Digital officials said it was unclear how many of the affected hard drives actually were in consumer hands or how much the recall would cost.

The company, which supplies equipment to Gateway Inc. and Compaq Computer Corp., said many of the disk drives were still in the hands of manufacturers and sellers.

The defect can cause the hard drives - the part of the computer that stores data - to fail to power up after six to 12 months of use, company officials said Monday.

"No data has been lost, and none is in danger of being lost," said Charles Haggerty, Western Digital's chief executive.

The recall is the latest in a string of problems, including recent layoffs and a plunging stock price, for the Orange County-based computer company.

The hard drives being recalled are part of the WD Cavair series. They were made between Aug. 27 and last Friday, and have drive capacities between 6.4 gigabytes and 20.5 gigabytes, the company said.

Consumers who purchased computers in the past month can check specification sheets on their machines to see if they include a Western Digital drive, officials said. The company's Web site, www.westerndigital.com, offers a software program that can be downloaded to identify affected products.

Global Ban on Internet Taxes Sought

The Clinton administration and Congress are urging that the World Trade Organization impose a permanent global ban on taxes and tariffs aimed specifically at Internet commerce.

Of particular concern is the "bit tax" on transmission of digital data proposed by a recent United Nations report as a way for developing countries to gain revenue. The tax would increase based on the size of a computer file being transferred.

Legislation introduced Thursday by Rep. Christopher Cox, R-Calif., and Sen. Ron Wyden, D-Ore., urges U.S. trade officials to work during the WTO's November meeting in Seattle for the permanent ban. The measure also says the United States should oppose an attempt by any nation to impose a bit tax.

"We want to make sure we arrest this threat before it's too late," Cox said.

Some Internet companies, Cox added, have questioned the Clinton administration's commitment to the ban, but Wyden said Treasury Secretary Lawrence Summers telephoned Thursday to offer full support for their non-binding resolution.

"We need strong U.S. leadership to develop fair rules and a level playing field for a healthy global electronic marketplace," Wyden said. "Both political parties have a reason to be supportive."

The 130-nation WTO last year adopted a one-year moratorium on Internet tariffs and discriminatory taxes, but several European countries have expressed interest in attempting to impose their value-added taxes on goods sold there. France, for example, has a 20.6 percent value-added tax on goods.

Pakistan and Egypt, among others, want to "keep their options open," Cox said.

"We're trying to get everyone to understand that this would be mutually assured destruction," Cox said. "It's appealing to people's better judgment."

On the domestic Internet tax front, Cox and Wyden agreed that a federal commission appointed by Congress should be left free to recommend future U.S. tax policy on e-commerce by its April deadline. But if the 19-member panel deadlocks or is "hijacked," in Wyden's words, by one faction or another, Congress should consider giving it more time.

The Advisory Commission on Electronic Commerce, created as part of a law banning new U.S. Internet taxes for three years, is divided between members who fear loss of government revenue to tax-free Internet business and those who argue that sales taxes or other taxes would hamper the medium's growth.

"What we're interested in is, what can they agree on?" Cox said.

"Naturally, everyone is not in harmony. Anything that group could agree on would likely be good policy."

Zap! ... And Your PC's Dead

With \$500 and a trip to the hardware store, saboteurs can build a device capable of remotely disrupting computers, automobiles, medical equipment and nearly anything else dependent on electronics, according to a California engineer who demonstrated a homebrew computer death-ray at the InfowarCon '99 conference.

Former Navy engineer David Schriner showed off an unwieldy device constructed from a parabolic reflector, a horn antenna and two automotive ignition coils, which he aimed at two personal computers about 20 feet away.

When an assistant activated the Rube Goldberg contraption by connecting it to a car battery, the conference room filled with a loud buzzing from the PA system and a PowerPoint presentation on the projection screen flickered and scattered. One of the computers instantly dropped out of its screen saver.

When the device was switched off, both PCs were frozen, and wouldn't respond to keyboard input.

The effects of High Energy Radio Frequency (HERF) emissions on electronics are well known among engineers, and info-warriors have expressed concern that adversarial nations may someday include computer-killing devices in their arsenals.

Military aircraft are built with hardened electronics designed to survive the electromagnetic pulse created by a nuclear detonation. Schriner theorized that a single nuclear weapon designed specifically for the purpose, "would probably take out all of the electronics on the East Coast."

But Schriner, who has devoted his research to small-scale electronic warfare, said the demonstration was intended as a "wake up call" to show that even low-budget saboteurs can create viable electronic weapons.

"We bought the car battery at Wal-Mart yesterday," said Schriner. "It's all stuff you can buy at the hardware store."

The HERF gun is not particularly high-tech, either. The device uses technology dating back to Tesla, essentially pushing a 20 megawatt burst of undisciplined radio noise through an antenna. The energy is enough to interfere with sensitive computer components nearby, creating unpredictable results ranging from minor anomalous behavior, to complete burnout.

Schriner said he's built larger HERF guns capable of crashing computers and disabling automobiles at a range of 100 feet, with a cost as low as \$300.

Jonathan Lemkin, a screenwriter working on an infowar script for Paramount, was particularly impressed with the dramatic display and menacing hardware. "That's definitely going in the movie," he said.

The computers targeted in today's demonstration worked fine after rebooting, and Schriner said permanent damage is uncommon. "But if that happens to be a computer in a tank, or in a piece of medical equipment, how long does it take to reboot? . . . By that time you could be dead."

Conference organizer and infowar author Winn Schwartau said Wednesday's

demonstration validates a threat he first tried to warn Congress about in 1991.

"They asked if I thought they should add HERF guns to the Brady Bill," Schwartau recalls.

Switching Mechanisms Give New Insights

Probing small magnetic domains, two research groups have turned up switching mechanisms that might have an impact on data storage technology. Though different in many respects, the experiments at Cornell University and at the Swiss Federal Institute of Technology in Zurich came up with an effect that had not been observed before: the direct reversal of magnetic domains with an electrical field.

Currently, all magnetic storage devices use magnetic fields generated in a read/write head to interact with magnetic domains on a disk. The recent work suggests that on a smaller, higher-density storage system, the read/write process might be simplified with electrical currents.

While the results are presently only laboratory experiments, the information "will provide considerable new insights into magnetic dynamics in the sub-100-nanometer regime, which is the regime that innovative magnetic storage devices will most likely be moving into commercially over the next decade," said Robert Buhrman, an engineering professor at Cornell's School of Applied and Engineering Physics, here.

The Cornell group discovered that magnetic domains in adjacent cobalt layers, separated by copper, can be switched between stable parallel and antiparallel configurations by reversing the current flow through the material. Multilayers of cobalt-copper-cobalt are used to produce giant magnetoresistance (GMR), an effect that is now being used commercially to push up the storage capacity of disk drives. GMR itself was until recently a laboratory curiosity, but has made a rapid entry into the commercial arena.

The Zurich researchers were able to create rapidly changing magnetic domains in a thin cobalt film by using electrons accelerated to nearly the speed of light to trigger the reversal. The group's findings are notable because they may one day lead to faster write-head speeds for magnetic storage devices.

Physicist Christian Back and several colleagues at the Zurich research institute used beams of electrons created by the two-mile-long electron-beam linear accelerator at the Stanford Linear Accelerator Center in California.

Back's team found that very small electrical fields, of 200 kA/meter, could reverse the magnetization of cobalt film at a switching time of 2 ps.

Currently, the fastest write heads take about 2 ns to make the switch. If the Zurich group's experiment is any indication, a magnetic write head could feasibly write 1,000 times faster than current write heads. But Back is cautious about suggesting whether his team's work will lead to a product any time soon.

"[The work] shows we can go down to these times from a physical standpoint,

but I don't know if it can be done technologically," he said.

Back said he sees the experiments as basic research that holds potential for magnetic storage technology, but he believes commercial application is "many years away."

However, Back noted that the group has applied for a patent in the United States. "People didn't think GMR would ever be a product, either," he observed.

The Zurich team seeks to optimize the magnetic process of reversal to make it even faster. It's also working with the "damping" process, which occurs before the reversal. Damping involves a loss of energy that returns the system to the ground state, Back said. He referred to the phenomenon as a "precessional magnetization reversal" wherein the magnetism precesses around the field direction and eventually precesses into the field.

The experiment applied an electron pulse perpendicularly to the magnetic field. That created torque, which triggered the reversal of the magnetic fields. Traditionally, the pulse had been applied parallel to the magnetic field.

The team has worked on the project on and off since 1995, whenever they could get "beam time" at Stanford. Some of the group, including Back, also spent time doing research for the storage systems division at IBM Corp.'s Almaden Research Center (San Jose, Calif.). IBM has been a pioneer in bringing GMR multilayers to high-density disk-drive technology.

Meanwhile, the Cornell results might be applied to building a solid-state nonvolatile RAM, according to Buhrman. "We have demonstrated a possible current-driven hysteretic switch which could be used as a static-RAM device," he said. "The device depends on ferromagnetism but a spin-polarized current, and not an external magnetic field, is used to do the switching. This could have significant advantages with respect to operation of large arrays of such devices."

The currents required, according to the experimental results, would be acceptable in thin-film microcircuits when the diameter of the magnetic domain being switched is smaller than about 100 nm. The magnetic-field orientation would remain after the current is switched off, making it a nonvolatile memory effect. The orientation could be easily detected by the change in electrical resistance—the basic GMR effect—making it easy to read an array of the devices.

The small size of the magnetic domains would make very high SRAM densities possible, "but more research and development work will be required to establish the competitive and comparative values of this type of device over alternatives, such as the magnetic-field switch tunnel junction device that IBM refers to as MagRAM," Buhrman said. The switching speeds of the memory cells would be well below 1 ns, he said.

IBM researcher John Slonczewski proposed the experiment a few years ago. The Cornell experiment took Slonczewski's suggestion for using the copper/cobalt layers to study the effect of an electric current on magnetic domains. The basic setup uses a copper region isolated from a thin cobalt layer by a silicon-nitride barrier. The barrier is thinned at one point to allow electrons to travel across. On the other side of the cobalt region is another copper layer and then a thicker cobalt layer.

The electric current, rather than directly affecting a domain, acts as a

carrier that transports angular momentum from one domain to the other. The current-induced change is called spin transfer.

Buhrman noted that the Zurich work is "using the magnetic field produced by a very short pulse of electrons to cause the local magnetic-field reversal of a region of ferromagnetic cobalt in a thin film." By contrast, "in our case the polarized spins of the electrons do the job themselves; rather than the magnetic field they generate via Ampere's law."

The Zurich group used very short local magnetic-field pulses generated by high-velocity electrons to demonstrate the speed of reversal possible and to get some insights into the dynamics of the magnetic reversal process. In this case, the reversal is the direct result of a magnetic field and no other magnetic domains are involved. Highly focused electron pulses are able to generate high fields in a very small region, which explains how the electric field is able to directly switch the magnetic orientation of cobalt atoms.

"The volume of material that this group is affecting is orders of magnitude larger than the sub-100-nm diameter areas that we are reversing. But in both cases it is the dynamics of the magnetic reversal process that is key to the potential switching speed," Buhrman said.

The necessity of generating such intense electric fields locally would make the effect much more difficult to reduce to some practical system. In fact, the high intensity of the pulses creates local damage in the films, which would affect the read/write lifetime of a storage system based on the effect.

3Com, Microsoft Ship Home Net Kit

3Com Corp. and Microsoft Corp. this week began shipping a home network kit that allows consumers to link home computers and printers in different rooms.

The HomeConnect kit uses Ethernet network cables to link computers, printers and scanners to a network hub device, allowing the sharing of files and multi-player video game playing.

The home network kits use Microsoft's HomeClick Network Software to simplify installation, the companies said Wednesday in a statement.

3Com and Microsoft reached an agreement in March to create the networking kit, which is similar to the Ethernet product 3Com provides for small businesses.

Microsoft Patches Internet Explorer, ActiveX Holes

Microsoft has patched a handful of security holes in its Internet Explorer browser and ActiveX technology that made computers vulnerable to attack by malicious Web site operators.

The first patch takes care of a problem with IE's ImportExportFavorites feature, which lets users transfer lists of frequently visited Web

addresses. The bug lets a malicious Web site operator run executable code on the computer of someone who visits that Web site.

"The net result is that a malicious Web site operator potentially could take any action on the computer that the user would be capable of taking," Microsoft warned in a security alert earlier this month.

Microsoft's patch eliminates the problem, the company said today. Versions 4.01 and 5.0 of IE are at risk. The patch also fixes a related problem involving ActiveX, Microsoft's technology for bringing interactive scripts and controls to Web pages.

ActiveX has long been a security headache for Microsoft. Critics of the technology fault its "trust-based" security model, in which signatures let users choose whether to download an ActiveX control. With this system, users are expected to judge that controls signed by well-known companies like Microsoft are less likely to be maliciously designed than those signed by unknown entities.

In the latest discovery, Microsoft identified eight ActiveX controls it said were "incorrectly marked as 'safe for scripting,'" a designation that assures users that they can download the controls without posing any security risk to their own computers. The controls could be manipulated for malicious ends, however, Microsoft said.

The controls in question are Kodak Image Edit: Wang Imaging; Kodak Image Annotation: Wang Imaging; Kodak Image Scan: Wang Imaging; Kodak Thumbnail Image: Wang Imaging; Wang Image Admin: Wang Imaging; HHOpen: HTML help files; Registration Wizard: Internet Explorer Product Registration; and IE Active Setup: Internet Explorer Setup.

Microsoft credited Bulgarian bug hunter Georgi Guninski with discovering the so-called ImportExportFavorites bug. Richard Smith of Pharlap Software and Australian bug hunter Shane Hird were recognized for discovering the ActiveX problems.

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